

# Exhibit 3

DEFENDANT METROPOLITAN LIFE INSURANCE COMPANY'S  
DESCRIPTION OF EXPERT TESTIMONY AND EXPERT  
REPORT FOR MICHELE CARBONE, M.D., Ph.D.

The address of Dr. Michele Carbone, M.D., Ph.D. is University of Hawaii, Cancer Research Center of Hawaii, 651 Ilalo St., BSB Room 231, Honolulu, Hawaii 96813.

Dr. Carbone's testimony will focus on (a) Dr. Gardner's experiments and their relevance and (b) criteria to establish human cancer etiology. In addition, Dr. Carbone may testify concerning general medical issues, including the methods and criteria for the diagnosis of mesothelioma, and the causation of mesothelioma in humans to the extent relevant to this case. Dr. Carbone also may testify concerning the diagnosis or lack thereof of an asbestos-related disease based upon review of the medical records of plaintiffs. Dr. Carbone may testify, for example, regarding whether a plaintiff has or does not have mesothelioma based on his review of available medical records and materials, including without limitation slides and paraffin tissue blocks.

Dr. Carbone is qualified to testify as an expert on the basis of his education, training and experience in the field of pathology, and by his scientific research and publication in the field of asbestos, mesothelioma, animal and human carcinogenesis and cancer etiology. Dr. Carbone is a Board-certified pathologist, a Professor of Pathology, and the Director of the University of Hawaii Cancer Center. Previously, Dr. Carbone held scientific and academic positions at the National Institutes of Health ("NIH"), at the University of Chicago and at Loyola University. During his fellowship at the NIH, Dr. Carbone obtained his Ph.D. in Human Pathology through a combined research program between the Medical School of Rome "La Sapienza" and the NIH, and is licensed to practice medicine in the states of Hawaii and Illinois. Dr. Carbone's work in the causation and diagnosis of mesothelioma, including asbestos pathogenesis, has been and is funded by research grants from the National Cancer Institute ("NCI") and the American Cancer

Society. Dr. Carbone has authored and co-authored more than 150 scientific publications and book contributions.

With respect to (a) and (b) above, Dr. Carbone is expected to testify about the accepted scientific standards and methods for conducting cancer research, including protocols and use of animals in cancer experimentation, and customs and practices regarding editing, peer review, publication of manuscripts and scientific articles, the application process to the NCI for grant funding, and in general on how cancer research is funded. Dr. Carbone will testify about the NCI and the NIH peer review mechanism to fund cancer research and the significance of such funding. He will also testify on the mechanisms and options available to researchers to bring to the attention of the public health authorities discoveries that may have an impact on human health. With respect to the Saranac Laboratory, Dr. Carbone is expected to testify concerning Dr. Gardner's asbestos dust inhalation studies, the possible scientific and public health significance of those studies, and whether the results of the studies were or were not brought to the attention of the public health authorities. Dr. Carbone is also expected to testify that asbestos dust inhalation studies undertaken by Dr. Leroy Gardner at the Saranac Laboratory on experimental animals were not designed or conducted in a manner that would allow scientifically valid conclusions to be drawn about the carcinogenicity of asbestos. Dr. Carbone is also expected to testify regarding the scientific and medical literature regarding human asbestosis and lung cancer during the relevant period. He is also expected to testify that his conclusions reflected above are consistent with the conclusions expressed by Dr. Gardner himself in 1943 and the National Advisory Council of the National Cancer Institute in 1944.

The facts known to this expert that relate to, or form the basis of, his opinions include those facts contained in documents relating to the inhalation dust studies performed at the

Saranac Laboratory, including correspondence, memoranda, transcripts, drafts and published reports and related material, as well as, facts obtained about cancer research during the course of his education and professional activities. Such facts may also include additional facts ultimately obtained from review of the medical literature and review of testimony of fact and expert witnesses in this litigation. The exhibits this expert will use to support the aforementioned facts are the documents, correspondence, memoranda, transcripts and literature as more fully described above. These exhibits will be made available for production in accordance with FED. R. CIV. P. 34

Dr. Carbone's hourly rate to be paid for his study and testimony in this case was formerly \$1,000 per hour. However, he is currently on a fixed retainer.

Dr. Carbone may also testify in rebuttal to plaintiffs' witnesses.

I hereby certify that I have read the foregoing report and agree that it accurately describes the area and contents of my expected expert testimony in this case.



Michele Carbone, M.D., Ph.D.

Dated: Apr 20 2012

Updated 10/23/13

**Michele Carbone, M.D., Ph.D.**  
**Date of Birth: 24 April 1960**  
**Citizenship: U.S.A.**

## **I. Personal Data**

### **Work:**

University of Hawaii Cancer Center  
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 Honolulu, HI 96813  
 Ph: 808-586-3013/ Fax: 808-586-3052 (Director's Office)  
 Ph: 808-440-4596/ Fax: 808-587-0790 (Laboratory)  
 E-mail: mcarbone@cc.hawaii.edu

### **Home:**

4119 Black Point Rd.  
 Honolulu, HI 96816



**Languages:** Italian (Mother tongue); Spanish (Second Mother tongue); English (Fluently).

## **II. Education**

University of Chicago	Anatomic Pathology	1999 Board Certified (USA)
Medical School of Rome "La Sapienza". National Institutes of Health, Bethesda, MD, Combined Program.	Ph.D. in Human Pathology	1993
Medical School of Rome "La Sapienza".	Anatomic Pathology	1988 Board Certified (Italy)
Medical School of Rome "La Sapienza".	M.D. (cum laude)	1984

## **III. Academic Appointments**

Director	University of Hawaii Cancer Center Honolulu, HI	Sept. 1, 2009 – present
Interim Director	Cancer Research Center of Hawaii, Honolulu, HI	Dec. 2008 – Aug. 2009
Professor	Department of Pathology John A. Burns School of Medicine University of Hawaii, Honolulu, HI	Aug. 2006 – present

Chair	Department of Pathology John A. Burns School of Medicine University of Hawaii, Honolulu, HI	Jan. 2008 – April 2010
Professor and Director with Tenure	Thoracic Oncology Program Cancer Research Center of Hawaii, Honolulu, HI	June 2006 – present
Member, Graduate Faculty	Molecular Biosciences & Bioengineering University of Hawaii, Honolulu, HI	Sept. 2006 - present
Professor	Cancer Center, Department of Pathology, Loyola University, Chicago, IL	2005-2006
Director	Thoracic Oncology Program, Loyola University, Chicago, IL	2005-2006
Associate Professor Tenure	Cancer Center, Department of Pathology, Loyola University, Chicago, IL	July, 2002-2005
Associate Professor	Cancer Center, Department of Pathology, Loyola University, Chicago, IL	July, 2000-2002
Member, Graduate Faculty	Cancer Center, Department of Molecular Biology, Loyola University, Chicago, IL	1997-2006
Assistant Professor	Cancer Center, Department of Pathology, Loyola University, Chicago, IL	1997-June, 2000
Instructor/Resident	Department of Pathology, University of Chicago, IL	1994-1996
Visiting Professor	Anatomic Pathology University “La Sapienza” Rome, Italy	1994 (October)
Adjunct Assistant Professor	Department of Pathology Uniformed Services University of the Health Sciences, Bethesda, MD	1989-1994
Visiting Associate Head Unit of Oncogenes	Section on Viruses and Cellular Biology, NICHD-NIH, Bethesda, MD	1990-1994
Visiting Scientist	Department of Biochemistry, FREIE, University, Berlin Germany	1991 (Oct. - Dec.)

Adjunct Scientist	Section of Viruses and Cellular Biology, NICHD-NIH, Bethesda, MD	1989-1990
Visiting Fellow	Laboratory of Immunopathology, NIAID- NIH Bethesda, MD	1986-1989
Resident	Anatomic Pathology, University "La Sapienza" Rome, Italy	1984-1986

#### IV. Certifications/Licenses

Hawaii	Licensed Physician and Surgeon	2006-Present
Illinois	Board Certified (Anatomic Pathology) (USA)	1999
Illinois	Licensed Physician and Surgeon	1996-Present
Educational Commission for Foreign Medical Graduates	ECFMG Diploma	1993
Medical School of Rome "La Sapienza".	Board Certified (Anatomic Pathology) (Italy) Valid Throughout EEC	1988
Italy	Licensed Physician and Surgeon Valid Throughout EEC	1985-Present

#### V. Societies

Medical Officer Italian Embassy in the USA, 1989-1994  
 Medical Officer Consulate of Italy in San Francisco for the State of Hawaii, 2008-present  
 Member, American Association for Cancer Research  
 Member, American Society for Investigative Pathology  
 Member, Academia Cosentina, Italy

#### VI. Journal Editorial Activities and Review Committee Memberships

**Editorial Board:** Cancer Biology and Therapy, Anti-Cancer Research, Current Cancer Therapy Reviews, Journal of Oncology Reviews, Diagnostic Cytopathology, Clinical Medicine: Pathology, Journal of Biomedical Research

**Consulting Reviewer:** American Journal of Pathology, The American Journal of Medical Sciences, Archives of Pathology and Laboratory Medicine, Cancer Research, Cancer Letters, Genes, Chromosomes and Cancer, Human Pathology, International Journal of Cancer, Journal of Cellular Biochemistry, Journal of the National Cancer Institute, J. Neurovirology, Journal of Physiology, Oncogene, Proceedings of the National Academy of Sciences, The Lancet, etc.

**Study Sections:**

Study Section Member, NCI SPORE in Lung and Genitourinary Cancers, 2005  
 Study Section Member, NCI, Lung Cancer and Inflammation (RFA CA07-046), Aug. 2007  
 Study Section Member, NCI, SPORE Special Emphasis Panel, 2010

**International Agreements:** Member, US-Italy Science and Technology Commission, 1994-1995, that renewed the treaty of scientific collaboration between Italy and the U.S.

## **VII. Awards**

Landon Foundation-AACR INNOVATOR Award for International Collaboration in Cancer Research	2008
Fogarty Fellowship (National Institutes of Health)	1986-1994

## **VIII. Honors**

Honorary Consul of Italy for the State of Hawaii	2010-present
Knight of the Republic of Italy (Cavaliere della Repubblica)	2001

## **IX. Grants and Contracts Active**

- 5P30 CA071789-13 NIH/NCI " University of Hawaii Cancer Center CCSG"	07/01/12-06/30/17 \$2,978,952 annual direct costs	Carbone, P.I.
- V Foundation "HMGB1, A Biomarker for Mineral Fiber Exposure and Detection of Malignant Mesothelioma"	10/31/12-10/30/15 \$180,000 annual direct costs	Carbone-Yang co-PIs
-Riviera Foundation "Role of SV40, JC and BK viruses in predisposing to asbestos carcinogenesis"	04/15/03-Open \$120,000 (Total Cost)	Carbone, P.I.
-Riviera Foundation "Genetics and human mesothelioma"	04/01/05-Open \$40,000 (Total Cost)	Carbone, P.I.
- UH Foundation "HMGB1 and Environmental exposure in the pathogenesis of Malignant Mesothelioma"	7/1/10-Open \$ 4.3M (Total Cost)	Carbone, P.I.

## **Pending Applications:**

1P50CA177432-01A1 NCI "University of Hawaii Cancer Center (UHCC) Mesothelioma SPORE"	07/01/14-06/30/19 \$12.5M (Total NCI Cost)	Carbone, P.I.
RO1CA185126-01 NCI "Aspirin binds and inhibits HMGB1 – A novel anti-cancer mechanism"	04/01/14-03/31/18 \$1,540,000 (Total cost)	Carbone and Yang co-PIs



**Past National Funding:**

- NCI-PO1CA114047-01A1 "Pathogenesis of Mesothelioma"	09/15/06-08/31/13 \$8,306,435 (Total Cost)	40% Carbone, P.I.
Project 1. Gene Environment Interaction on Mesothelioma; Carbone, P.I. 20%		
Project 2. ERK Pathways in Pathogenesis of Mesothelioma; Mossman, P.I. (U Vermont)		
Project 3. AKT & Tumor Suppressor Pathways in Mesothelioma; Testa, P.I. (Fox Chase)		
Administrative Core. Carbone, Director, 5%		
Clinical Core. Pass, Director (New York U)		
Pathology and Virology Core. Carbone, Director, 15%		
-AACR-Landon Award for International Collaboration in Cancer Research 2008	01/12/08-12/31/11 \$ 100,000 (Total cost)	Carbone, P.I.
-NCI-RO1CA106567 "Role of cell mediators in asbestos -SV40 carcinogenesis"	03/08/05-01/31/11 \$1,724,529 (Total Cost)	10% Carbone, P.I.
-NCI- RO1CA 092657-01 "SV40-like sequences in human tumors: analysis and biological implications".	04/01/02-03/31/09 \$1,831,920 (Total Cost)	30% Effort Carbone, P.I.
-NIH-EDRN U0-1 (subcontract from New York Univ.) "Australian-American Mesothelioma Research Consortium"	2005-2008 \$14,800 (Total Cost)	Pass, P.I. Carbone, Co-Invest.
- RSG CCE-106924 American Cancer Society-National "Contribution of genetic predisposition to fiber related mesotheliomas".	01/01/04-12/31/07 \$677,000 (Total Cost)	20% Effort Carbone, P.I.
- Cancer Research Foundation of America "Genetics and human mesothelioma"	01/15/03-01/14/05 \$79,541 (Total Cost)	5% Carbone, P.I.
- R29 CA77220-01 NCI "SV40-like sequences in human tumors: analysis and biologic implications"	8/1/97-8/31/02 \$539,677 (Total Cost)	50% Effort Carbone, P.I.
- RPG-99-238-01-CNE American Cancer Society-National "SV40 as a co-carcinogenesis in asbestos-induced mesothelioma".	7/1/99-6/30/03 \$375,000 (Total Cost)	20% Effort Carbone, P.I.
- R21 NCI "In vitro selection of chemical inhibitors of papovaviruses oncoproteins".	04/01/01-03/31/03 \$304,000 (Total Cost)	5% Effort Bocchetta, P.I. Carbone, Co-P.I.
-Butitta Mesothelioma Foundation "Poliovaccines and mesothelioma"	08/01/04-06/01/06 \$15,000 (Total Cost)	N/A Carbone, P.I.

**X. Patents Pending**

Carbone, M., Testa, J.R., Cheung, M., Pei, J. 2011. Systems and Methods for Diagnosing a Predisposition to Develop Cancer.

Carbone, M., Yang, H., Pass, H. I. 2011. Biomarker of Asbestos Exposure and Mesothelioma.

Carbone, M., Yang, H., Bianchi, M.E. 2011. Treatment and Prevention of Cancer with HMBG1 Antagonists.

**XI. Original Research Articles**

1. Haddada H, Sogn JA, Coligan JE, **Carbone M**, Dixon K, Levine AS, and Lewis Jr AM. Viral Gene Inhibition of Class I Major Histocompatibility Antigen Expression: Not a General Mechanism Governing the Tumorigenicity of Adenovirus Type 2, Adenovirus Type 12, and Simian Virus 40 Transformed Syrian Hamster Cells. *J Virology*, 62:2755-2761, **1988**.
2. **Carbone M**, Lewis Jr. AM, Matthews BJ, Levine AS, and Dixon K. Characterization of Hamster Tumors Induced by SV40 Small-t Deletion Mutants as True Histiocytic Lymphomas. *Cancer Res*, 49:1565-1571, **1989**.
3. **Carbone M**, Kajiwarra E, Patch CT, Lewis Jr. AM, Levine AS, and Dixon K. Biochemical Properties of Media Conditioned by Simian Virus 40-Induced Hamster Tumor Cells: Correlation with Distinct Cell Phenotypes But Not with Oncogenicity. *Cancer Res*, 49:6809-6812, **1989**.
4. **Carbone M**, Hauser J, Rundell K, Dixon K, Carthy M, and Levine AS. Simian Virus 40 Small-t Antigen Inhibits DNA Replication In Vitro. *J Virology*, 66:1804-1808, **1992**.
5. Cicala C, Pompetti F, Nguyen P, Dixon K, Levine AS, and **Carbone M**. SV40 Small-t Deletion Mutants Preferentially Transform Mononuclear Phagocytes and B Lymphocytes In Vivo. *Virology*, 190:475-479, **1992**.
6. Cicala C, Pompetti F, and **Carbone M**. Simian Virus 40 Induces Mesotheliomas in Hamsters. *Am J Pathol*, 142:1524-1533, **1993**.
7. Cicala C, Avantaggiati ML, Rundell K, Graessmann A, Levine AS, and **Carbone M**. SV40 Small-t Antigen Stimulates Viral DNA Replication in Permissive Monkey Cells. *J Virology*, 68:3138-3144, **1994**.
8. **Carbone M**, Pass HI, Rizzo P, Marinetti MR, DiMuzio M, Mew DJY, Levine AS, and Procopio A. Simian virus 40-like DNA sequences in human pleural mesothelioma. *Oncogene*, 9:1781-1790, **1994**.
9. Penno MB, Askin FB, Ma H, **Carbone M**, Vargas MP and Pass HI. High CD44 expression on human mesotheliomas mediates association with hyaluronan. *The Cancer J*, 1:196-203, **1995**.
10. Avantaggiati ML, **Carbone M**, Graessman A, Nakatani Y, Howard B, and Levine AS. The SV40 Large T Antigen and Adenovirus E1a Oncoproteins Interact with Distinct Isoforms of the Transcriptional Coactivator, p300. *EMBO J*, 15:2236-2248, **1996**.
11. **Carbone M**, Rizzo P, Giuliano M, Procopio A, Gebhardt M, Mangham C, Hansen M, Malkin DF, Pompetti F, Picci P, Bushart G, Levine AS, Pass HI, Bergsagel JD, and Garcea RL. SV40-like Sequences in Human Bone Tumors. *Oncogene*, 13:527-535, **1996**.
12. Pass HI, Mew DJY, **Carbone M**, Matthews WA, Donington JS, Baserga R, Walker CL, Resnicoff M, and Steinberg SM. Inhibition of Hamster Mesothelioma Tumorigenesis by an Antisense Expression Plasmid to the Insulin-like Growth Factor-1 Receptor. *Cancer Res*, 56:4044-4048, **1996**.
13. Pompetti F, Rizzo P, Simon RM, Freidlin B, Mew DJ, Pass HI, Picci P, Levine AS, and **Carbone M**. Oncogene Alterations in Primary, Recurrent, and Metastatic Human Bone Tumors. *J Cell Biochem*, 63:37-50, **1996**.
14. Agarwala B, Waldman JD, and **Carbone M**. Unguarded Tricuspid Orifice with Uhl's Malformation. *Cardiol in the Young*, 6:177-180, **1996**.
15. Wimmer PJ, Howes DS, Rumoro DP, and **Carbone M**. Fatal Vascular Catastrophe in Ehlers-Danlos Syndrome: A Case Report and Review. *J Emerg Med*, 14:25-31, **1996**.
16. De Luca A, Baldi A, Esposito V, Howard CM, Bagella L, Rizzo P, Caputi M, Pass HI, Giordano GG, De Luca A, Baldi F, **Carbone M**, and Giordano A. The retinoblastoma gene family pRb/p105, p107, pRb2/p130 and simian virus-40 large T-antigen in human mesotheliomas. *Nature Medicine*, 3:913-916, **1997**.
17. **Carbone M**, Rizzo P, Grimley PM, Procopio A, Mew DJY, Shridhar V, de Bartolomeis A, Esposito V, Giuliano M, Steinberg SM, Levine AS, Giordano A, and Pass HI. Simian Virus-40 Large-T Antigen Binds p53 in Human Mesotheliomas. *Nature Medicine*, 3:908-912, **1997**.
18. Pass H, Rizzo P, Donington J, Wu P, and **Carbone M**. Further validation of SV40-like DNA in human pleural mesotheliomas. *Dev Biol Stand*, 94:143-146, **1998**.
19. Testa JR, **Carbone M**, Hirvonen A, Khalili K, Krynska B, Linnainmaa K, Pooley FD, Rizzo P, Rusch V, and Xiao GH. A multi-institutional study confirms the presence and expression of simian virus 40 in human malignant mesotheliomas. *Cancer Res, (Advances in Brief)*, 58:4505-4509, **1998**.

20. Pass HI, Donington JS, Wu P, Rizzo P, Nishimura M, Kennedy R, and **Carbone M**. Human mesotheliomas contain the simian virus-40 (SV40) regulatory region and large tumor (T) antigen DNA sequences. *J Cardio and Thoracic Surgery*, 116:854-859, **1998**.
21. Fisher S G, Weber L, and **Carbone M**. Cancer risk associated with SV40-contaminated Polio Vaccine. *Anti-Cancer Research*, 19:2173-2180, **1999**.
22. Hirvonen A, Mattson K, Karjalainen A, Ollikainen T, Tammilehto L, Hovi T, Vainio H, Pass HI, Di Resta I, **Carbone M**, and Linnainmaa K. SV40-like DNA sequences not detectable in Finnish mesothelioma patients not exposed to SV40-contaminated poliovaccines. *Mol Carcinogenesis*, 26:93-99, **1999**.
23. Krynska B, Del Valle L, Croul S, Gordon J, Katsetos CD, **Carbone M**, Giordano A, and Khalili K. Detection of human neurotropic JC virus DNA sequence and expression of the viral oncogenic protein in pediatric medulloblastomas. *Proc Natl Acad Sci, USA*, 96:11519-11524, **1999**.
24. Ohta Y, Shridhar V, Bright RK, Kalemkerian GP, Du W, Watanabe Y, **Carbone M**, and Pass HI. VEGF and VEGF type C play an important role in angiogenesis and lymphangiogenesis in human malignant mesothelioma tumours. *Br J Can*, 81:54-61, **1999**.
25. Rizzo P, Di Resta I, Powers A, Ratner H, and **Carbone M**. Unique strains of SV40 in commercial poliovaccines from 1955 not readily identifiable with current testing for SV40 infection. *Cancer Res, (Advances in Brief)*, 59:6103-6108, **1999**.
26. Rizzo P, **Carbone M**, Fisher S, Matker C, Swinnen LJ, Powers A, DiResta I, Alkan S, Pass HI, and Fisher RI. SV40 is present in most US human mesotheliomas, but it is rarely present in non-Hodgkin's lymphoma. *Chest*, 116:470S-473S, **1999**.
27. Xiao SY, Rizzo P, and **Carbone M**. Benign papillary mesothelioma of the tunica vaginalis testis. *Arch Path Lab Med*, 124:143-147, **2000**.
28. Bocchetta M, Di Resta I, Powers A, Fresco R, Tosolini A, Testa JR, Pass HI, Rizzo P, and **Carbone M**. Human mesothelial cells are unusually susceptible to simian virus 40-mediated transformation and asbestos cocarcinogenicity. *Proc Natl Acad Sci USA*, 97:10214-10219, **2000**.
29. McConnell EE, and **Carbone M**. A comparison of pleural mesotheliomas induced by asbestos or SV40 virus in Syrian golden hamsters. *Inhalation Toxicology*, 12(suppl.3):173-181, **2000**.
30. Roushdy-Hammady I, Siegel J, Emri S, Testa JR and **Carbone M**. A genetic-susceptibility factor malignant mesothelioma in the Cappadocian region of Turkey. *The Lancet*, 357:444-445, **2001**.
31. Velders MP, Macedo MF, Provenzano M, Elmishad AG, Holzhutter H-G, **Carbone M** and Kast WM. Human T cell responses to endogenously presented HLA-A\*0201 restricted peptides of simian virus 40 large T antigen. *J Cell Biochem*, 82:155-162, **2001**.
32. Rizzo P, Matker C, Powers A, Setlak P, Heeney JL, Ratner H and **Carbone M**. No evidence of HIV and SIV sequences in two separate lots of polio vaccines used in the first U.S. polio vaccine campaign. *Virology*, 287:13-17, **2001**.
33. Foddìs R, De Rienzo A, Broccoli D, Bocchetta M, Stekala E, Rizzo P, Tosolini A, Grobelny JV, Jhanwar SC, Pass HI, Testa JR and **Carbone M**. SV40 infection induces telomerase activity in human mesothelial cells. *Oncogene*, 21:1434-1442, **2002**.
34. Toyooka S, **Carbone M**, Toyooka KO, Bocchetta M, Shivapurkar N, Minna JD and Gazdar AF. Progressive aberrant methylation of the RASSF1A gene in simian virus 40 infected human mesothelial cells. *Oncogene*, 21:4340-4344, **2002**.
35. **Carbone M**, Rizzo P, Powers A, Bocchetta M, Fresco R and Krausz T. Molecular analyses, morphology and immunohistochemistry together differentiate pleural synovial sarcomas from mesotheliomas: clinical implications. *Anti-Cancer Res*, 22:3443-3448, **2002**.
36. Bocchetta M, Miele L, Pass HI and **Carbone M**. Notch-1 induction, a novel activity of SV40 required for growth of SV40-transformed human mesothelial cells. *Oncogene*, 22:81-89, **2003**.
37. **Carbone M**, Rudzinski J and Bocchetta M. High throughput testing of the SV40 large T antigen binding to cellular p53 identifies putative drugs for the treatment of SV40-related cancers. *Virology*, 315:409-414, **2003**.
38. **Carbone M**, Burck C, Rdzanek M, Rudzinski J, Cutrone R, and Bocchetta M. Different susceptibility of human mesothelial cells in polyomavirus infection and malignant transformation. *Cancer Res (Adv in Brief)*, 63:6125-6129, **2003**.

39. **Carbone M**, Bocchetta M, Cristaudo A, Emri S, Gazdar A, Jasani B, Lednický J, Miele L, Mutti L, Pass HI, Ramael M, Rizzo P, Testa JR, Weggen S, and Yeung A. SV40 and human brain tumors. *Int J Cancer*, 106:140-142, **2003** (Technical report).
40. Pass HI, Liu Z, Wali An, Bueno R, Land S, Lott D, Siddiq F, Lonardo F, **Carbone M**, and Draghici S. Gene Expression profiles predict survival and progression of pleural mesothelioma. *Clinical Cancer Research*, 10:849-859, **2004**.
41. Hurtuk M and **Carbone M**. A cytokeratin- and calretinin-negative staining sarcomatoid malignant mesothelioma. *Anticancer Res*, 24:3097-3102, **2004**.
42. **Carbone M**, Klein G, Gruber J, and Wong M. Modern criteria to establish human cancer etiology. *Cancer Res*, 64:5518-5524, **2004**.
43. Tanvetyanon T, Elmishad AG, and **Carbone M**. Development of malignant mesothelioma during treatment for polymphocytic leukemia: is asbestos or simian virus 40 a link? *Anticancer Res*, 25:429-434, **2005**.
44. **Carbone M**, Rdzanek MA, Rudzinski J, DeMarco MA, Ramos-Nino M, Mossman B, Pass HI, and Bocchetta M. SV40 detection in human tumor specimens. *Cancer Res*, 65:10120-21, **2005**.
45. Cutrone R, Lednický J, Dunn G, Rizzo P, Bocchetta M, Chumakov K, Minor P and **Carbone M**. Some oral poliovirus vaccines were contaminatead with infectious simian virus 40 after 1961. *Cancer Res*, 65:10273-79, **2005**.
46. Pass HI, Lott D, Lonardo F, Harbut M, Zhandong L, Tang N, **Carbone M**, Webb C, and Wali A. Asbestos Exposure, Pleural Mesothelioma, and Serum Osteopontin Levels. *N Engl J Med*, 353:1564-73, **2005**.
47. Wali A, Morin PJ, Hough CD, Lonardo F, Seya T, **Carbone M**, Pass HI. Identification of intelectin overexpression in malignant pleural mesothelioma by serial analysis of gene expression (SAGE). *Lung Cancer*, 48:19-29, **2005**.
48. Kroczyńska B, **Carbone M**. Cross reactivity between many anti-human antibodies for their hamster homologs provide the tools to study the signal transduction pathway activated by asbestos and SV40 in the malignant mesothelioma model. *Molecular Carcinogenesis*, V 45: 537-542, **2006**.
49. Dogan UA, Baris YI, Do gan M, Emri S, S teele I, Elmishad AG, a nd **Carbone M**. Genetic Predisposition to Fiber Carcinogenesis Causes a mesothelioma Epidemic in Turkey. *Cancer Res*, 66:5063-5068, **2006**.
50. Yang H, Bocchetta M, Kroczyńska B, Elmishad AG, Chen Y, Liu Z, Bubici C, Mossman BT, Pass HI, Testa JR, Franzoso G, **Carbone M**. TNF-alpha inhibits asbestos-induced cytotoxicity via a NF-kappaB-dependent pathway, a possible mechanism for asbestos-induced oncogenesis. *Proc Natl Acad Sci USA*, 103:10397-10402. **2006**.
51. Kroczyńska B, Cutrone R, Bocchetta M, Yang H, Elmishad AG, Vacek P, Ramos-Nino M, Mossman BT, Pass HI, and **Carbone M**. Crocidolite asbestos and SV40 are co-carcinogens in human mesothelial cells and in causing mesothelioma in hamsters. *Proc Natl Acad Sci USA*, 103: 14128-14133, **2006**.
52. **Carbone M**, Emri S, Dogan U, Steele I, Tuncer M, Pass HI, Baris YI. A mesothelioma epidemic in Cappadocia: scientific developments and unexpected social outcomes. *Nature Reviews Cancer*, 7:147-154, **2007**.
53. Pass HI, Wali A, Tang N, Ivanova A, Ivanov S, Harbut M, **Carbone M**, Allard J. Soluble mesothelin-related peptide level elevation in mesothelioma serum and pleural effusions. *Ann Thorac Surg*, 85:265-272, **2008**.
54. Ramos-Nino ME, Blumen SR, Sabo-Attwood T, Pass H, **Carbone M**, Testa J, Altomare DA, Mossman B T. H GF m ediates ce ll p roliferation o f h uman m esothelioma cells through a P13K/MEK5/Fra-1 pathway. *Am J Respir Cell Mol Biol*, 38: 209-217, **2008**.
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16. **Carbone M**, Hauser J, Rundell K, Dixon K, Carthy M, and Levine AS. Simian Virus 40 small-t Antigen Inhibits DNA Replication In Vitro. Molecular Biology of Human Pathogenic Viruses. UCLA-Keystone Symposia on Molecular Biology and Cellular Biology, J. Cell. Bioch. (Supplement 15 E), p.65, **1991**.
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21. Levine AS, Hauser J, Carty M, Rundell K, Dixon K, **and Carbone M**. Simian Virus 40 Small-t Antigen Inhibits SV40 Replication In Vitro. Keystone Symposia on Molecular Biology, J. Cell Bioch. (Supplement -16B), p. 59, **1993**.
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26. **Carbone M**, Rizzo P, Mew DJY, and Pass HI. Evidence for and implications of SV40 in human tumors. 14h Nordic Virus Symposium, Tromso, Norway, June, **1995**.
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31. **Carbone M**. Possible pathogenic role and detection of SV40 in human mesothelioma. DNA Virus Conference, Madison, WI, July 14 - 19, **1998**.
32. Rizzo P, Di Resta I, Pass HI, and **Carbone M**. Analyses of the regulatory regions of SV40 present in human mesotheliomas. DNA Conference, Madison, WI, July 14 - 19, **1998**.
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37. **Carbone M**. The International Mesothelioma Group. Malignant Pleural Mesothelioma Conference. Lignano Sabbiadoro, Italy, March 18-19, **1999**.
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43. **Carbone M** and Bocchetta M. Human mesothelioma cells are uniquely susceptible to SV40 transformation. United States and Canadian Academy of Pathology Annual Meeting, New Orleans, LA. March 25-31, **2000**.

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49. **Carbone M**, Burck C, Rdzanek M, Cutrone R, Rudzinski J and Bocchetta M. Human mesothelial cells have different susceptibility to SV40, BK and JC virus infection and transformation. 1<sup>st</sup> International Conference. Florence, Italy. May 8-10, **2003**.
50. Cutrone R, Rizzo P, Bocchetta M, Pass HI and **Carbone M**. Archetypal and non-archetypal SV40 in human mesotheliomas. Society for General Microbiology. 152<sup>nd</sup> Meeting. Edinburgh, Scotland, April 7-11, **2003**.
51. **Carbone M**. Role of asbestos, SV40, erionite and genetics in the pathogenesis of malignant mesothelioma. VII Meeting of the International Mesothelioma Interest Group (I.M.I.G.). Brescia Italy. June 24-26, **2004**.
52. Emri S, Dogan U, Akay H, **Carbone M**, and Baris I. Epidemiology of malignant mesothelioma in Cappadocia. VII Meeting of the International Mesothelioma Interest Group (I.M.I.G.). Brescia Italy. June 24-26, **2004**.
53. Gazdar A, Suzuki M, Pass HI, and **Carbone M**. Aberrant methylation profile of human malignant mesotheliomas and its relationship to SV40 infection. VII Meeting of the International Mesothelioma Interest Group (I.M.I.G.). Brescia, Italy. June 24-26, **2004**.
54. Pass HI, **Carbone M**, and Wali A. Studies of genomics and proteomics in mesothelioma. VII Meeting of the International Mesothelioma Interest Group (I.M.I.G.). Brescia Italy. June 24-26, **2004**.
55. **Carbone M**, Emri S, Rdzanek M, Elmishad A, Dogan U, and Baris YI. "Pathogenesis of Mesothelioma: Genetic Predisposition". Second International Symposium on Malignant Mesothelioma, Las Vegas, Nevada – October 6-8, **2005**.
56. Kroczyńska B, Yang H, **Carbone M**. Co-carcinogenesis study of wild type SV40 virus and crocidolite asbestos. American Association for Cancer Research, San Diego, CA, April 12-16, **2008**.
57. Beck A, Ivanova A, Ivanov S, Price L, Goldberg J, Wali A, Harbut M, **Carbone M**, Pass HI. Plasma osteopontin is an early detection and prognostic marker in malignant pleural mesothelioma. 44<sup>th</sup> American Association of Clinical Oncology Annual Meeting, Chicago, IL, May 30-June 3, **2008**.
58. Kroczyńska B, Yang H, **Carbone M**. Co-carcinogenesis study of wild type SV40 virus and crocidolite asbestos. American Association for Cancer Research, San Diego, CA, April 12-16, **2008**.
59. Flores RM, Riedel E, Donington JS, Krug L, Rosenzweig K, Adusumilli P, **Carbone M**, Rusch VW, Pass HI. Surgical resection is associated with improved survival but is performed less frequently in the management of malignant mesothelioma in a community based population. Results in 5,937 patients. American Association of Clinical Oncology Annual Meeting, Orlando, FL, May 29-June 2, **2009**.
60. Zhang L, Loo SYT, Shimizu D, Honda S, Cao Y, Powers A, **Carbone M**. MYB overexpression associated with advanced stage and metastasis of adenoid cystic carcinoma and together with TTF-1 identifying rare lung primary subtype, United States and Canadian Academy of Pathology, March 17-23, 2012, Vancouver BC, Canada. Mod Path, 25(suppl): 319A, **2012**.

61. **Carbone M**, Ferris LK, Baumann F, Napolitano A, Lum CA, Flores EG, Gaudino G, Powers A, Bryant-Greenwood P, Krausz T, Hyjek E, Tate R, Friedberg J, Weigel T, Pass HI, Yang H. The BAP1 Cancer Syndrome. 11th International Conference of the International Mesothelioma Interest Group (iMig). Boston, MA, September 11-14, **2012**.

## **XVII. Clinical, Teaching, and Administrative Activities**

Clinical activities: I review about 300 pleural pathology consults per year that I receive from, Hawaii, the US and from all over the world. Also, I am and I have been the pathologist reviewer of several clinical trials for mesothelioma. I provide my diagnostic expertise free of charge to all patients and physicians who ask for my opinion on issues related to pleural and peritoneal diagnosis, and I teach how to diagnose mesothelioma to pathologists in the US and abroad.

Professor, Department of Pathology	John A. Burns School of Medicine University of Hawaii, Honolulu, HI	2006 - present
Director, Research Lecture Series For Medical Students	Loyola University, Chicago, IL	2003 – 2006
Director, Molecular Biology of Oncogenesis Course	Loyola University, Chicago, IL	2003 – 2006
Autopsy Service and Consulting Pleural Pathologist	Loyola University, Chicago, IL	2000 – 2006
Research Funding Committee	Loyola University, Chicago, IL	1998 – 2006
Molecular Biology of Oncogenesis to Ph.D. Students in Molecular Biology	Loyola University, Chicago, IL	1997 - 2002
Associate Director Molecular Pathology	Loyola University, Chicago, IL	1996 - 2006
20 hours course on “Oncogenes” to Residents in Oncology and Anatomic Pathology	University La Sapienza” Rome, Italy	1994
Molecular Pathology to M.D. and Ph.D. Students	Uniformed Services University of the Health Sciences, Bethesda, MD	1989-1994

## **XVIII. Meetings Organized and Chaired**

1. **Carbone M** and Vogelzang N. *Malignant Mesothelioma: Therapeutic Options and Role of SV40: An Update*. University of Chicago, Chicago, IL, April 20-21, **2001**.
2. **Carbone M** and Wong M. *Validation of a Causal Relationship: Criteria to Establish Etiology*. National Cancer Institute Workshop, Washington, DC, Dec. 11-12, **2003**.
3. **Carbone M** and Nerurkar V. *Interactions Among Infectious Agents, Environmental Carcinogens, & Genetics in Human Cancer Development*. Symposium, John A. Burns School of Medicine and Cancer Research Center of Hawaii, Honolulu, HI, February 16, **2007**.



4. **Carbone M.** *Mesothelioma, Early Detection, Diagnosis, and Therapeutic Implications*. Workshop, John A. Burns School of Medicine and Cancer Research Center of Hawaii, Honolulu, HI, August 17, **2007**.
5. **Carbone M.** *Translational Cancer Medicine Symposium: Preventive Therapeutic Opportunities in Gene-Environment Interaction & Immunotherapy*. Cancer Research Center of Hawaii, The Queen's Medical Center, Hawaii Pacific Health, Kuakini Health Systems, Honolulu, HI February 17-18, **2009**.
6. **Carbone M.** *Hepatitis B Virus and the Prevention and Control of Liver Cancer*. Cancer Research Center of Hawaii and The Queen's Medical Center, Honolulu, HI, March 11, **2010**.
7. **Carbone M**, Chadwick D, Gaudino G, Ishihara-Wong D, Iwahashi GY, Morris PT, Yang H. Third Annual Translational Cancer Medicine Symposium. *Mesothelioma-Melanoma Cancer Syndrome: Gene-Environment Interaction?* University of Hawaii Cancer Center, The Queen's Medical Center, Honolulu, HI, December 2, **2011**.
8. **Carbone M**, Yu H, Fagan P. Fourth Annual Translational Cancer Medicine Symposium. *How Do We Reduce Cancer Risks? Altering Pathways to Obesity and Tobacco Use*. University of Hawaii Cancer Center, The Queen's Medical Center, Honolulu, HI, July 27, **2012**.
9. **Carbone M.** Fifth Annual Translational Cancer Medicine Symposium. *Looking closely at HMGB1*. University of Hawaii Cancer Center, Honolulu, HI, February 25, **2013**.
10. **Carbone M**, Yu H. Workshop: *Gene Environment interaction in human cancer development*. University of Hawaii Cancer Center, Honolulu, HI, September 23-24, **2013**.

#### **XIX. Invited Lectures (at major conferences and courses)**

1. **Carbone M.** *SV40 Induces Mesotheliomas in Rodents*. II International Mesothelioma Conference, San Francisco, CA, **1993**.
2. **Carbone M.** *Evidence for and Implications of SV40-like Sequences in Human Mesotheliomas*. 14th Nordic Virus Symposium, Tromso, Norway, p. 24 proceedings of the meeting, **1995**. (Keynote Lecture.)
3. **Carbone M.** *SV40 and Mesothelioma*. 3rd International Mesothelioma Interest Group Conference, Paris, France, **1995**. (Invited Speaker & Chairman of session on Genetics).
4. **Carbone M.** *Possible role of SV40 in the Pathogenesis of Human Mesotheliomas*. 1st U.S.-Italy Mesothelioma Conference, Torino, Italy, **1996**. (Invited Speaker and US-Chairman of the Conference).
5. **Carbone M.** *Role of DNA Tumor Viruses in the Development of Human Osteosarcomas*. II International Bone Tumor Conference, November 18-23, Bologna, Italy, **1996**.
6. **Carbone M.** *SV40 Oncogenicity in Hamsters*. United States of America, Department of Health and Human Services, CBER-NCI-NICHD-NCID-NIP-NVPO, Simian Virus (SV40): A Possible Human Polyomavirus, Workshop, Jan. 28, p.60 proceedings of the meeting, Bethesda, MD, **1997**. (Invited Speaker and Panelist)
7. **Carbone M.** *Evidence for Implication of SV40 Sequences in Human Mesotheliomas and Osteosarcomas*. United States of America, Department of Health and Human Services, CBER-NCI-NICHD-NCID-NIP-NVPO, Simian Virus (SV40): A Possible Human Polyomavirus, Workshop, Jan. 27, p.266-282, proceedings of the meeting, Bethesda, MD, **1997**. (Invited Speaker and Panelist)
8. **Carbone M.** *Evidence for SV40 in mesothelioma*. 4th International Mesothelioma Interest Group Conference, Philadelphia, PA, March 12-15, **1997**. (Invited Speaker and Chairman of session on Genetics).
9. **Carbone M.** *SV40 and its Association with Human Mesotheliomas*. 2nd U.S.-Italy Mesothelioma conference. Belgirate, Italy, May 29-30, **1997**. (Invited Speaker and U.S. Chairman of the Conference).
10. **Carbone M.** *Evidence for and Implications of SV40 Sequences in Human Tumors*. First Joint International Conference, AACR and Sbarro Institute for Molecular Medicine, Gene Targets for Cancer Treatment, Capri, Italy, June 3-6, **1997**.

11. **Carbone M.** *SV 40 and Human Mesothelioma.* A Workshop on The Health Effects of Chrysotile Asbestos: Contribution of Science to Risk Management Decisions, Montreal, Canada, September 14-16, **1997**.
12. **Carbone M.** *Simian Virus 40; A Possible Co-Factor in the Development of Malignant Pleural Mesothelioma.* New Developments in Pathogenesis of Malignant Pleural Mesotheliomas. Hacettepe University. Ankara, Turkey, November 19-26, **1997**. (Keynote Lecture).
13. **Carbone M.** *Molecular Biology for Microbiology and Virology.* International Meeting - Molecular Biology Clinical Perspectives. Parma, Italy, December 12, **1997**.
14. **Carbone M.** *SV40 and Asbestos as Co-Carcinogenesis in Mesothelioma Development.* Seminar on Environmental Pathology, 305 Course, University of Vermont, College of Medicine, Burlington, Vermont, April 2, **1998**.
15. **Carbone M.** *Possible Pathogenic Role and Detection of SV40 in Human Mesothelioma.* Molecular Biology of Small DNA Tumor Viruses Meeting. Madison, WI. 7/14-7/19, **1998**.
16. **Carbone M.** *Pitfalls in Pathologic Diagnosis of Malignant Mesothelioma.* 3rd U.S.-Italy Mesothelioma conference. Brescia, Italy, October 16, **1998**. (Invited Speaker and U.S. Chairman of the Conference)
17. **Carbone M.** *SV40 Associated Tumorigenesis.* The Society for Biological Therapy, Pittsburgh, PA, October 21-24, **1998**.
18. **Carbone M.** *SV40 Virus, Polio Vaccine, and Human Mesothelioma: Recent Developments.* American College of Chest Physicians. Mesothelioma Update: 1998. Toronto, Canada, November 10-12, **1998**. Panel Discussion.
19. **Carbone M.** *Role of SV40 in the Pathogenesis of Mesothelioma.* Multimodality Therapy of Chest Malignancies: Update 98. Harvard Medical School, Boston, MA, **1998**. Guest Faculty.
20. **Carbone M.** *Simian Virus 40 and Human Mesothelioma.* 4th U.S.-Italy Mesothelioma conference. Lignano Sabbiadoro, Italy, March 18-19, **1999**. (Invited Speaker and U.S. Chairman of the Conference).
21. **Carbone M.** *The Association of Simian Virus 40 with Hamsters and Human Lymphomas: Biological Significance.* British Lymphoma Society Meeting. Cardiff, U.K., May 14, **1999**. (Keynote lecture, delivered by P. Rizzo).
22. **Carbone M.** *Mesothelioma.* 1st International Chicago Symposium on Malignancies of the Chest and Head/Neck. Chicago, IL, October 1-2, **1999**.
23. **Carbone M.** *Molecular Genetics of Mesothelioma.* American College of Chest Physicians. Plenary Lecture: Mesothelioma. Chicago, IL, November 2, **1999**.
24. **Carbone M.** *Role of SV40 in the Pathogenesis of Mesothelioma.* Multimodality Therapy of Chest Malignancies: Update 2000. Harvard Medical School, Boston, MA, **2000**. Guest Faculty.
25. **Carbone M.** *Molecular Genetics of Mesothelioma.* International Mesothelioma Conference. Aviano, Italy, April 25, **2000**.
26. **Carbone M.** *Malignant Mesothelioma.* Joint Meeting of Pulmonary Diseases and Thoracic Surgery. Antalya, Turkey, November 6-9, **2000**.
27. **Carbone M.** *Epidemiology and pathogenesis of mesothelioma: asbestos, SV40 and genetics.* Le mesotheliome Das Mesotheliom Mesothelioma. Fribourg, November 20, **2000**. (Keynote Lecture).
28. **Carbone M.** *Human Mesothelial Cells are Uniquely Susceptible to SV40 Infection and Transformation.* 2<sup>nd</sup> International Mesothelioma Meeting, Chicago, IL. April 21, **2001**.
29. **Carbone M.** *Role of environment virus and genetic in the pathogenesis of mesothelioma.* ICC International Cancer Center, Rovigo, Italy, May 11, **2002**.
30. **Carbone M.** *Malignant Mesothelioma: New Biological and Clinical Advances.* Meet the Professors Session: American Society of Clinical Oncology, Orlando, FL, May 18 – May 21, **2002**.
31. **Carbone M.** *Mesothelioma Pathogenesis.* American Society of Clinical Oncology, Orlando, FL, May 18 – May 21, **2002**.
32. **Carbone M.** *Pathogenesis of mesothelioma: Role of asbestos, SV40 and genetic predisposition.* 18<sup>th</sup> UICC International Cancer Congress, Oslo, Norway, June 30 – July 5, **2002**.

33. **Carbone M.** *The presence and mechanisms of SV40 in human cancers.* National Academy of Science – Immunization Safety Review Committee, Washington, DC, July 11, **2002.**
34. **Carbone M.** *Role of environmental carcinogens, viruses, and genetic predisposition in the pathogenesis of malignant mesothelioma.* Internal Medicine Grand Rounds Lecture. Eastern Virginia Medical School, July 24, **2002.**
35. **Carbone M.** *The presence and mechanisms of SV40 in human cancers.* Milton S. Hershey Medical Center – Department of Microbiology & Immunology Seminar, Hershey, PA, October 3, **2002.**
36. **Carbone M.** *Il Mesotelioma maligno: novita eziologiche e terapeutiche.* Sala Rossini – Caffè Pedrocchi, Padova, Italy, March 5, **2003.**
37. **Carbone M.** SV40 and human cancer Society for General Microbiology. 152<sup>nd</sup> Meeting. Edinburgh, Scotland, April 7-11, **2003.**
38. **Carbone M.** Etiology and Pathology of Mesotheliomas 4<sup>th</sup> International Lung Cancer Congress. Maui, Hawaii, June 25-28, **2003.**
39. **Carbone M.** *Molecular pathogenesis of mesothelioma.* 10<sup>th</sup> World Conference on Lung Cancer. Vancouver, Canada, August 10-14, **2003.**
40. **Carbone M.** *Pathogenesis of mesothelioma.* Italian Society of Anatomic Pathology, Genova, Italy. October 22-25, **2003.**
41. **Carbone M.** *Multistep and multifactorial carcinogenesis. When does a contributing factor become a human carcinogen?* Validation of a causal relationship: criteria to establish etiology. National Cancer Institute Workshop, Washington, DC, Dec. 11-12, **2003.**
42. **Carbone M.** *Role of environmental carcinogens, SV40 and genetic predisposition in the pathogenesis of human mesothelioma.* Karmanos Cancer Institute Grand Rounds, Detroit, Michigan, Jan. 8, **2003.**
43. **Carbone M.** *Pathogenesis of mesothelioma.* VII Meeting of the International Mesothelioma Interest Group (I.M.I.G.), Brescia, Italy, June 24-26, **2004.**
44. **Carbone M.** *SV40 in human tumors, an update.* National Institute of Allergy and Infectious Diseases (NIAID) Vaccine Cell Substrates, June 29-July 1, **2004.**
45. **Carbone M.** *Inherited mesothelioma.* First International Symposium on Malignant Mesothelioma, October 14-16, Las Vegas, **2004.**
46. **Carbone M.** *The Pathogenesis of Mesothelioma.* Karmanos Cancer Institute, Detroit, Michigan, November 15, **2004.**
47. **Carbone M.** *Contribution of Asbestos, Erionite, Genetics and SV40 in the Pathogens of Human Malignant Mesothelioma.* University of Pittsburgh, February 23, **2005.**
48. **Carbone M.** *Mesothelioma: Carcinogenesis Issues: New Insights on “The Asbestos/SV40 Phenomenon”.* 11<sup>th</sup> World Conference on Lung Cancer, Barcelona, Spain, July 3, **2005.**
49. **Carbone M.** *Pathogenesis of Mesothelioma-Early Detection Markers.* University of Sydney, Australia. July 25, **2005.**
50. **Carbone M.** *Interaction among Asbestos, Erionite, SV40 and Genetics in the Pathogenesis of Human Malignant Mesothelioma.* Honolulu, University of Hawaii. August 29, **2005.**
51. **Carbone M.** *Turkey, Erionite, and the Genetic Connection.* Second International Symposium on Malignant Mesothelioma. Las Vegas, NV. October 6-8, **2005.**
52. **Carbone M.** *Mesothelioma in Cappadocia: The Gene/Environment Interaction.* The 8<sup>th</sup> International Conference of the International Mesothelioma Interest Group. Chicago, IL, October 19-22, **2006.**
53. **Carbone M.** *Asbestos.* An International Conference on Occupational Lung Diseases: Up Close. Sudbury, Ontario, May 10, **2007.**
54. **Carbone M.** *Gene Environmental Interaction in Mesothelioma.* 10<sup>th</sup> Annual West Hawaii Cancer Symposium. Kailua-Kona, HI, September 7-8, **2007.**
55. **Carbone M.** *Interaction of Mineral Fibers with Genetic and Viruses in the Pathogenesis of Mesothelioma.* Harvard Medical School, Brigham and Women’s Hospital. Boston, MA, September 14, 2007. Lecturer, International Mesothelioma Program.

56. **Carbone M.** *Mesothelioma: New Developments in Pathogenesis and Early Detection Offer Possible Opportunities for Immunotherapy.* Workshop, NCI-University of Texas in El Paso. El Paso, TX, September 21-22, **2007**.
57. **Carbone M.** *Interactions Among Genetics, Erionite and Asbestos Exposure, and SV40 Infections, in the Pathogenesis of Human Malignant Mesothelioma.* M.D. Anderson Grand Rounds Lecture, Blaffer Visiting Professorship, Houston, TX, February 1, **2008**.
58. **Carbone M.** *SV40 Tag/p53 Complexes Actively Promote Malignant Cell Growth of Human Mesothelial Cells.* 2<sup>nd</sup> Conference on Aneuploidy and Cancer: Clinical and Experimental Aspects, Oakland, CA, February 2-3, **2008**.
59. **Carbone M.** *New Approaches in Treatment and Screening of Mesothelioma.* National Cancer Week of Turkey, April 3, **2008**.
60. **Carbone M.** *Mesothelioma 2008: Diagnostic and Therapeutic State of the Art.* 11<sup>th</sup> Annual West Hawaii Cancer Symposium. Kailua-Kona, HI, September 5-6, **2008**.
61. **Carbone M.** *Etiology of mesothelioma other than mineral fibres: hereditary factors and virus.* European Respiratory Society (ERS) Congress 2008, Berlin, Germany, Oct. 4-8, **2008**.
62. **Carbone M.** *Gene Environment Interaction as Cause of Mesothelioma Epidemics.* Translational Cancer Medicine Symposium: Preventive and Therapeutic Opportunities in Gene-Environment Interaction and Immunotherapy. Honolulu, HI, February 17-18, **2009**.
63. **Carbone M.** *Results of a randomized Phase 3 clinical trial using Onconase+doxorubicin vs. doxorubicin alone and possible use of Onconase in individuals from high risk families with high levels of mesothelin/osteopontin.* 2<sup>nd</sup> NIH Mesothelioma Conference, Bethesda, MD, March 6, **2009**.
64. **Carbone M.** *Early Detection of Mesothelioma in Cappadocia.* 6<sup>th</sup> Early Detection Research Network (EDRN) Scientific Workshop, & 19<sup>th</sup> EDRN Steering Committee Meeting. Mesothelioma Working Group Meeting, Bethesda, MD, August 31-September 3, **2009**.
65. **Carbone M.** *Interactions among viruses, genetics and environment in mesothelioma pathogenesis.* Comprehensive Cancer Center of Wake Forest University, Department of Cancer Biology: Sixth Annual Deal Lectureship, Winston-Salem, NC, October 6, **2009**.
66. **Carbone M.** *Gene-Environment Cancer Interaction.* 5<sup>th</sup> International Asian Pacific Organization for Cancer Prevention (APOCP) Conference, Istanbul, Turkey, April 3-7, **2010**.
67. **Carbone M.** *Role of mineral fibers, genetics and SV40 in the pathogenesis of mesothelioma.* Twentieth Annual Harold L. Stewart Lecture in Experimental Oncology, Bethesda, MD, November 18, **2010**.
68. **Carbone M.** *Mechanisms of mineral fibers, genetics and SV40 in the pathogenesis of human mesothelioma lead to novel preventive and therapeutic approaches.* Medical Academy of Rome, Speaker, 2010-2011 Scientific Program, Rome, Italy, November 25, **2010**.
69. **Carbone M.** *Gene-Environment Interaction in Mesothelioma.* Center for Translational and Public Health Genomics: Seminar Series, M.D. Anderson Cancer Center, Houston, TX, March 30, **2011**.
70. **Carbone M.** *Genetic Predisposition, Erionite, and Mesothelioma.* 1<sup>th</sup> Joint Meeting: Advances in Cancer Research between Magna Graecia University and University of Hawaii. Distinguished Lecture, Istituto Nazionale Tumori "Regina Elena", Catanzaro, Italy, July 8, **2011**.
71. **Carbone M.** *Genetics, asbestos and HMGB1 driven inflammation in the pathogenesis of mesothelioma.* University of Pittsburgh: Immunology Seminar Series, Pittsburgh, PA, October 27, **2011**.
72. **Carbone M.** *The BAP1 Cancer Syndrome: Mesothelioma, Cutaneous and Uveal Melanoma and Atypical Spitz Nevus.* 15<sup>th</sup> Annual West Hawaii Cancer Symposium, Kona, HI, September 7-8, **2012**.
73. **Carbone M.** *The BAP1 Cancer Syndrome.* 11<sup>th</sup> International Conference of the International Mesothelioma Interest Group (iMig), Boston, MA, September 11-14, **2012**. (Keynote speaker and Session Chair).



74. **Carbone M.** *The Bap1 Cancer Syndrome: Mesothelioma, uveal and cutaneous melanoma.* The Second Symposium of the Affiliated Shanghai Sixth People's Hospital of SJTU and University of Pittsburgh School of Medicine, Shanghai, China, September 20, **2012**.
75. **Carbone M.** *The Bap1 Cancer Syndrome.* 2012 Zhejiang and Jiangxi Cancer Conference, Hangzhou, Zhejiang, China, September 27-29, **2012**.
76. **Carbone M.** (Panel Speaker) News from the genetics front; and Multidisciplinary panel to promote interaction between clinicians and researchers to achieve the best possible outcome for mesothelioma patients. Meso Foundation 2013 Symposium: All-in for a Cure! Las Vegas, NV, March 6-8, **2013**.
77. **Carbone M.** *Functional p53 facilitates Simian Virus infection of human cells via IGF-1.* 5th International Conference on Polyomaviruses and Human Diseases: Basic and Clinical Perspectives, Stresa, Italy, May 9-11, **2013**.
78. **Carbone M.** *Bap1 Cancer Syndrome.* Seminar-Cooperative Program on Translational Research on Pleural Mesothelioma, Magna Graecia University and Tommaso Campanella Cancer Center, Catanzaro, Italy, May 15, **2013**.
79. **Carbone M.** *BAP1 gene mutation and mesothelioma pathogenesis.* IASLC: 15th World Conference on Lung Cancer, Sydney, Australia, October 27-30, **2013**.
80. **Carbone M.** *Contributions of genetic and environmental factors to mesothelioma.* The 18th Congress of the Asian Pacific Society of Respirology (APSR 2013), Yokohama, Japan, November 11-14, **2013**. (Session Chair/Speaker).

**XX. Editorials and Commentaries in Scientific Journals about Dr. Carbone's Research:**

1. Brown P. Mystery virus linked to asbestos cancer. *New Scientist*, p.4, May, **1994**.
2. *Comment.* Fear of failing. *New Scientist*, p.3, May, **1994**.
3. Brown P. Polio vaccine linked to cancer. *New Scientist*, p.16, August, **1996**.
4. Pennisi E. Monkey virus DNA found in rare human cancers. *Science*, p.748-749, February, **1997**.
5. Wiman KG and Klein G. An old acquaintance resurfaces in human mesothelioma. *Nature Medicine*, p.839-840, August, **1997**.
6. Klein G. Simian virus 40 and the human mesothelium. *PNAS*, 97:9830-21, **2000**.
7. Clare Samson. SV40 link with mesotheliomas. *The Lancet, Oncology*, 1:69, **2000**.
8. M. Anello. Turkish towns provide genetic link to malignant mesothelioma. *Oncology News Intl.*, 10(6):9, **2001**.
9. M. Anello. Consensus growing for SV40 role in some mesotheliomas. *Oncology News Intl.*, 10(7):31, **2001**.
10. Ferber D. Monkey virus link to cancer grows stronger. *Science*, 296(5570):1012-1015, **2002**.
11. Vastag B. Sewage yields clues to SV40 transmission. *JAMA*, 288(11): **2002**.
12. Bookchin D. Vaccine scandal revives cancer fear. *New Scientist*, p. 6-7, July **2004**.
13. Ross K. Millions May Have Received Contaminated Polio Vaccine. *Science AAAS*, 11/15/**2005**.
14. Bangham J. A rock and a hard place. *Nature Reviews Cancer* V 6: 489, **2006**.
15. Editorial: How asbestos triggers cancer. *Chemical & Engineering News*, Vol 84(26):34, June **2006**.
16. Exposure to North Dakota Road Material May Increase Risk of Lung Cancer. *Science Daily*, Dec **2010**.
17. Maher B. Fear in the dust. *Nature*, 468: 884-885, Dec **2010**.
18. Levin M. Peril in the West. *www.fairwarning.org*, Oct **2011**.
19. Goldstein AM. Germline *BAP1* mutations and tumor susceptibility. *Nature Genetics*, 43:925-926, **2011**.
20. Wilson C. Villages of the Damned. *New Scientist*, 218:34-37, **2013**.

**XXI. Media Experience**

Dr. Carbone's work has been covered on several occasions by most newspapers in the US, and by many newspapers in England, Italy, Germany, Canada, Australia, etc. Among others, extensive articles about Dr. Carbone's work in the US lay-press can be found in: *New York* Nov 1996; *Money Magazine*, Dec 1996; *Boston Globe*, January 26, 1997; *Chicago Life*, January 1997; *Newsday*, Dec 29, 1998; *Atlantic Monthly*, February 2000, *Chicago Tribune* 2004. The book entitled, The Virus and The Vaccine is the true story of a Cancer-Causing Monkey Virus, Contaminated Polio Vaccine and Dr. Carbone's work written by Debbie Bookchin and Jim Schumacher. In addition to multiple TV reportages in the US, Dr. Carbone's work has been extensively covered by: Channel 4 in England, ABC, in Australia, BBC in Canada, etc. Loyola media services estimated that the advertising equivalency of free positive publicity to Loyola because of my media coverage from January 1997 until January 2001 equals to 15.5 million dollars. This document can be provided upon request. Since joining the University of Hawaii (UH), Dr. Carbone's work has been covered in the following Hawaii newspapers: *Honolulu Star-Bulletin*, November 12, 2006; *MidWeek*, December 27, 2006. Various media coverage on Hawaii TV News (such as KHNL, KHON, KITV, etc.) and local newspapers (formerly *Honolulu Advertiser* and *Honolulu Star Bulletin* --both now *Honolulu Star Advertiser*, etc.) have featured Dr. Carbone's work widely, including: In 2008, receiving the AACR-Landon Innovator Award for International Collaboration in Cancer Research for his research teams, led by Dr. Carbone, findings of a unique mesothelioma epidemic in 3 Turkish villages caused by a genetic predisposition to mineral fiber carcinogenesis. Recently Dr. Carbone and his research team were featured for discovering the BAP1 gene mutation's link to mesothelioma and other cancers-August 2011, and discovered extensive erionite exposure in North Dakota, USA - December 2010, which can be found in a commentary *Fear in the Dust*, in *Nature*, Dec 2011 as well as in other articles - *Science Daily*, *Discovers Magazine*, "Villages of the Damned", *New Scientist*, April 2013.

**XXII. Professional Courses:**

1. Acquired Immunodeficiencies and Related Pathology. Scuola Superiore di Oncologia e Scienze Biomediche, Genova, Italy. May 6-7, 1985.
2. TRAC 3 Recombinant DNA Methodology. Foundation for Advanced Education in Sciences, National Institutes of Health, Bethesda, MD. October 2 - December 18, 1986.
3. TRAC 2 Separation Techniques: Proteins and Other Biomolecules. Foundation for Advanced Education in Sciences, National Institutes of Health, Bethesda, MD. March 31 - June 2, 1987.
4. XI Course of the International School of Pure and Applied Biostructure NATO-ASI on Molecular Basis of Human Cancer, Erice, Italy. May 1990.
5. Forty-First Tutorial on Clinical Cytopathology. Chicago, IL March 9-16, 1996.
6. Forty-Second Tutorial on Clinical Cytopathology. Los Angeles, CA. March 15-22, 1997.
7. 9th Annual Review, Gastrointestinal Surgical Pathology and the 19th Annual Course Hepatopathology '98. Armed Forces Institute of Pathology, Bethesda, MD, August 16-20, 1998.
8. Thoracic Pathology: With Clinical and Radiologic Correlations. Armed Forces Institute of Pathology, Lake Buena Vista, Florida, December 10-13, 1998.
9. 9th Annual Anatomic Pathology. Armed Forces Institute of Pathology, Silver Spring, MD. May 2-8, 1999.
10. 10th Annual Review, Gastrointestinal Surgical Pathology and the 20th Annual Course Hepatopathology '99. Armed Forces Institute of Pathology, Bethesda, MD, August 15-17, 1999.
11. 2nd Annual Soft Tissue Tumors. Armed Forces Institute of Pathology, Silver Spring, MD. October 7-9, 1999.
12. Current Issues in Gynecologic Pathology. Armed Forces Institute of Pathology, Amelia Island, Florida, December 9-11, 1999.
13. U.S. and Canadian Academy of Pathology – Diagnostic Pathology 2000. Armed Forces Institute of Pathology, Philadelphia, PA, August 3-11, 2000.
14. Thoracic Pathology with Clinical and Radiologic Correlation. Armed Forces Institute of Pathology, Bethesda, MD, November 13-15, 2002.

15. Diagnostic Pathology of Soft Tissue Tumors. Harvard Medical School. Boston, MA, November 18-22, 2002.
16. Soft Tissue Tumor Pathology. Armed Forces Institute of Pathology, Bethesda, MD. September 29-October 3, 2003.
17. Fundamentals of Personnel Law for Managers and Supervisors. Human Resources Council January 15, 2004.
18. Soft Tissue Tumor Pathology. Armed Forces Institute of Pathology, Bethesda, MD. September 26-29, 2005.

**Dr. Michele Carbone:**  
**Trial and Deposition Testimony During Preceding Four Years**

For Metropolitan Life

None

For Parties Other than MetLife (Tentative List – to be confirmed)

11/16/2010	Ivan Provance v. A.W. Chesterton Company	Grundy County, IL
8/14/2013	The Estate of Claude Harper v. Alltite Gaskets	Baltimore, MD